



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

January 09, 2014

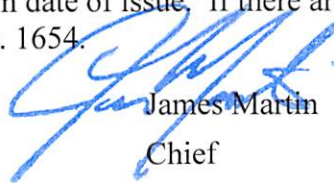
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-702372, issued to HARPER, HAYDEN ENERGY KA, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: FRENCH 1602
Farm Name: KREUTZER, DAVID & CONNIE
API Well Number: 47-702372
Permit Type: Plugging
Date Issued: 01/09/2014

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.

702372 P
1) Date November 7, 20 13
2) Operator's
Well No. French 1602
3) API Well No. 47-007 - 02372

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

- 4) Well Type: Oil / Gas XX / Liquid injection / Waste disposal /
(If "Gas, Production or Underground storage) Deep / Shallow XX
- 5) Location: Elevation 1132.35 Watershed Middle Run of Birch River
District Birch County Braxton Quadrangle Herold WV 7½'
- 6) Well Operator Hayden Harper Energy KA, LLC 7) Designated Agent Brett McDonough
Address 1001 Moorehead Square Drive - Suite 350 Address 1001 Moorehead Square Drive - Suite 350
Charlotte, NC 28203 Charlotte, NC 28203
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Bryan Harris Name Patchwork Oil and Gas
Address P.O. Box 157 Address 8165 Elizabeth Pike
Volga WV 26238 Elizabeth, WV 26143

10) Work Order: The work order for the manner of plugging this well is as follows:

See attached procedure and diagram on following page "API 47-007-02372 French 1602"

- CEMENT PLUGS MUST BE CLASS A CEMENT WITH NO MORE THAN 3% $CaCl_2$ AND NO OTHER ADDITIVES AND AT LEAST 100 FEET THICK.
 - GEL MUST BE USED AS A SPACER BETWEEN PLUGS.
 - GEL MUST BE FRESH WATER WITH AT LEAST 6% BENTONITE, BY WEIGHT.
- gwh

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

JAN 08 2014

Work order approved by inspector

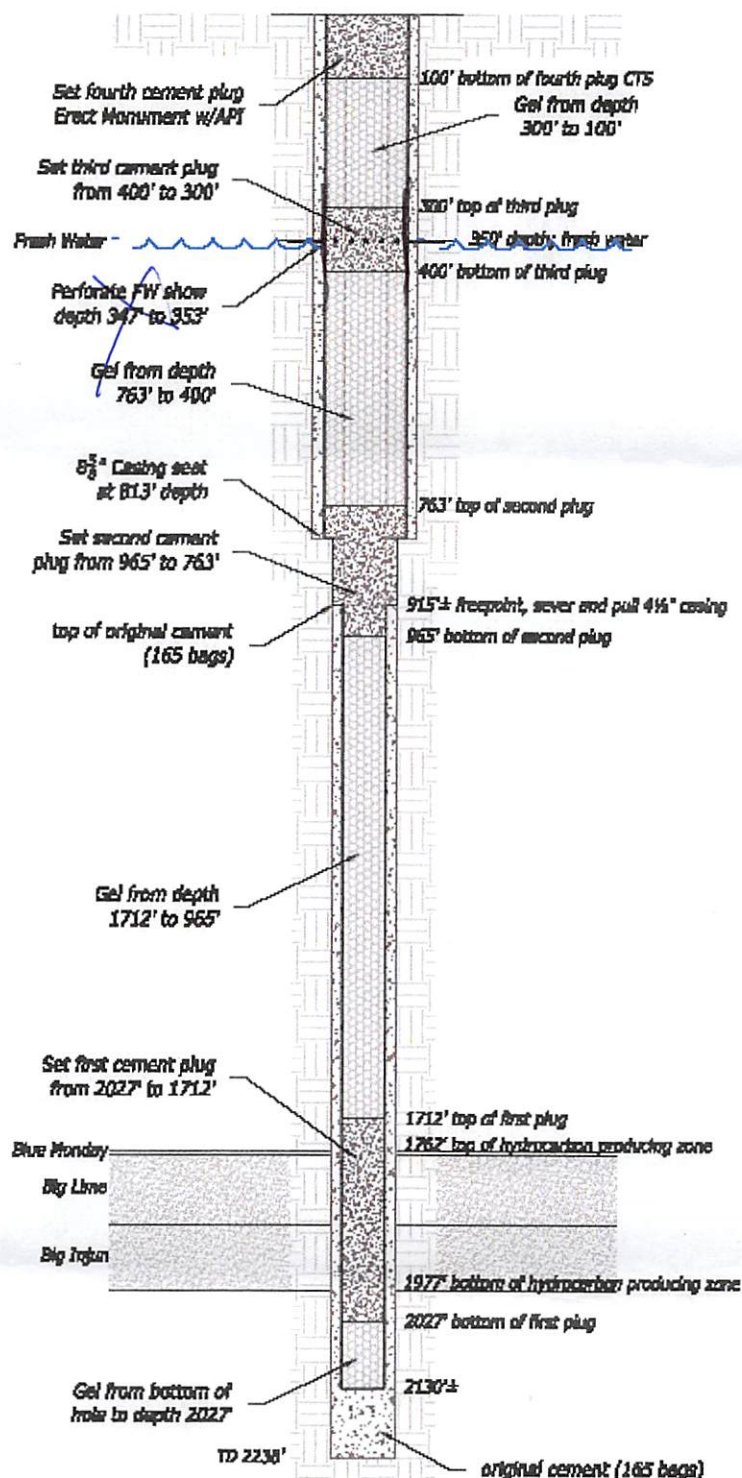
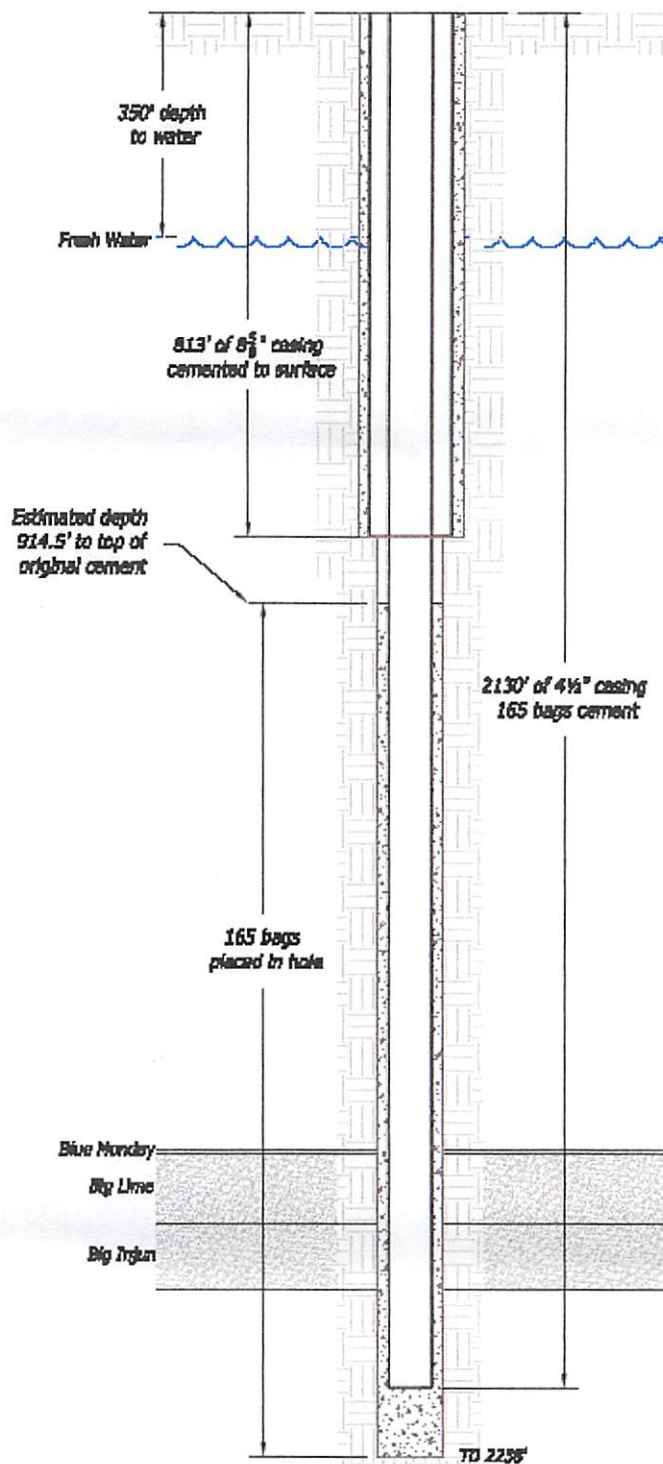
Bryan O'Han

RECEIVED
Office of Oil and Gas
WV Department of
Date 1-3-14
Environmental Protection

Existing Status API 47-007-02372
French #1602

Best Available Data

Plugging Plan; API 47-007-02372 P
French #1602



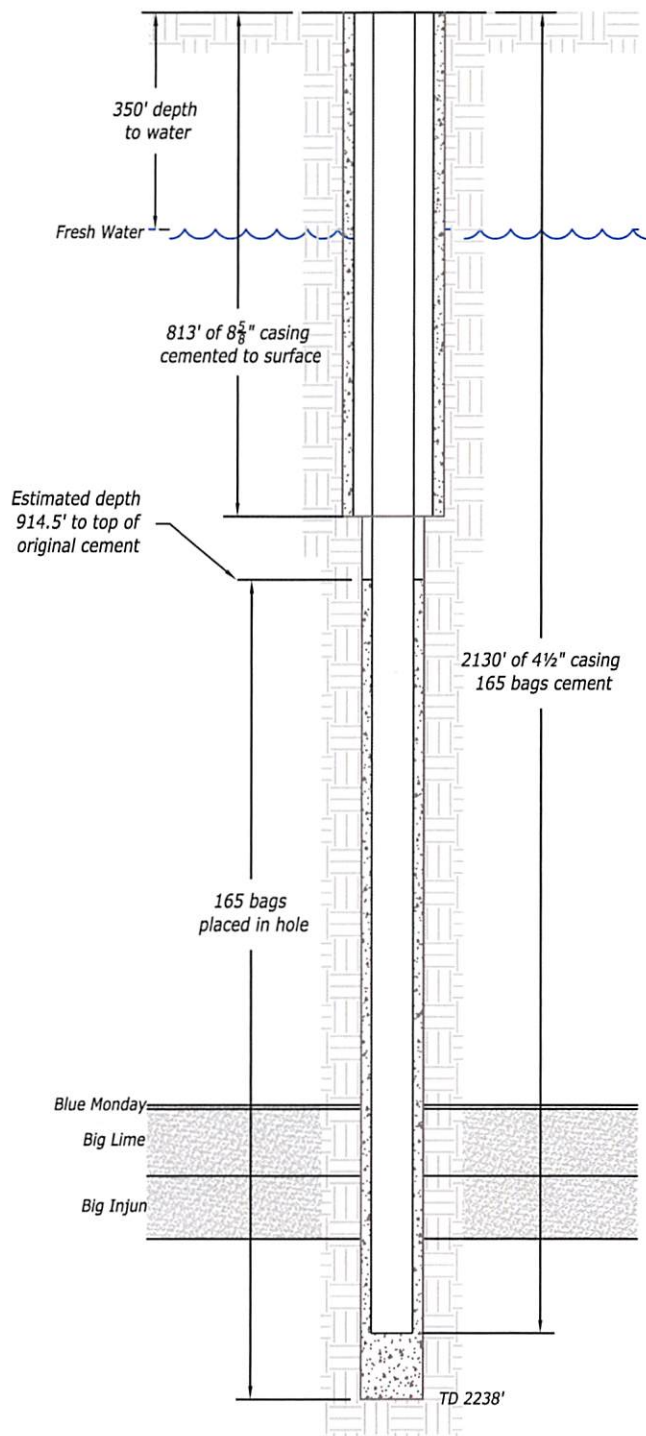
Plugging Procedure: Contact Inspector Brian Harris 304-553-6087

- 1) Attempt to clean out well bore to total depth.
- 2) Circulate gel to 20' above chamed out area, place the first cement plug from 2027' to 1712' to close the hydrocarbon producing zone.
- 3) Attempt to pull the 4 1/2" casing; freepoint, sever and pull the 4 1/2" casing above the original cemented depth; 915±.
- 4) Circulate gel from 1712' to 965' depth, place the second cement plug from 965' to 763' to include casing cut and old casing seat.
- 5) Perforate FW show from 347' to 353'
- 6) Circulate gel from 763' to 400'; set third cement plug from depth 400' to 300'.
- 7) Circulate gel from 300' to 100' then cement to surface.
- 8) Remove tubing and erect monument with API number affixed.

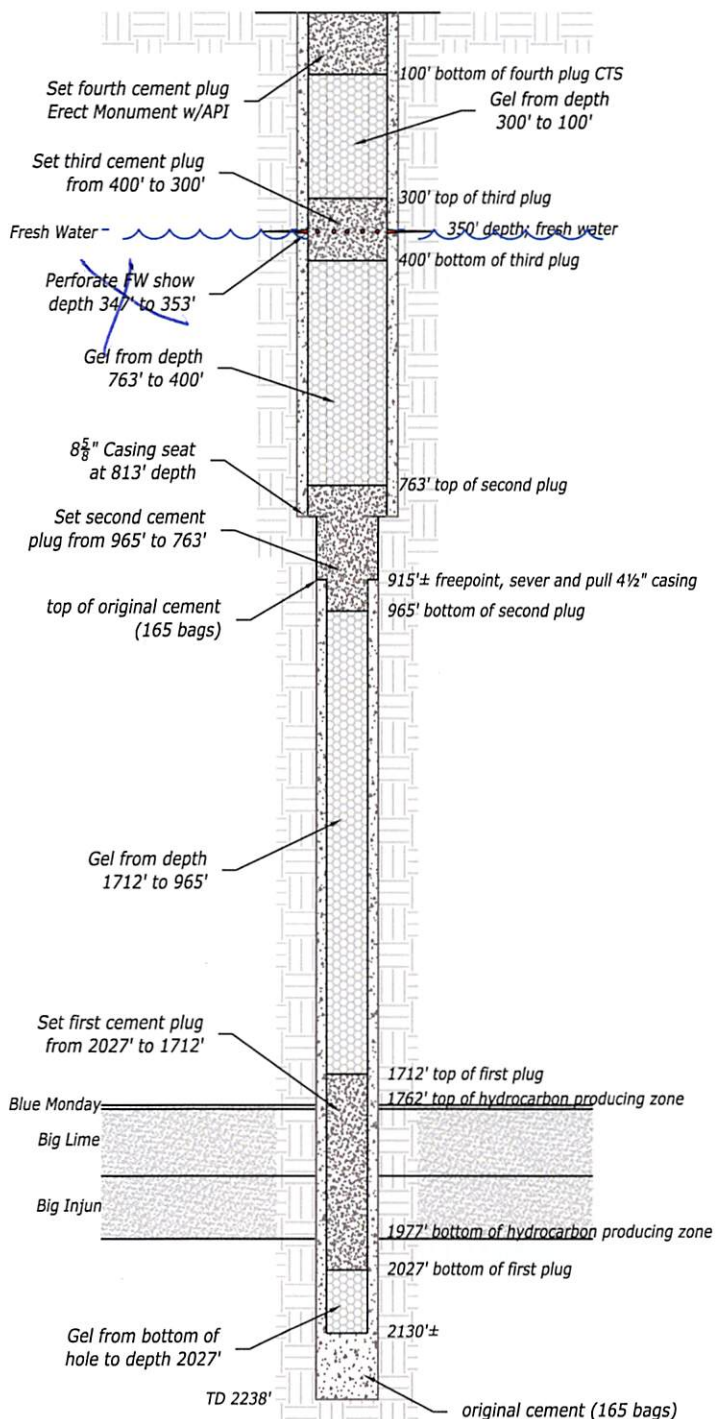
not to scale

No Perfs.
Set plug in casing
B.H.

Best Available Data



French #1602



Plugging Procedure: Contact Inspector Brian Harris 304-553-6087

- 1) Attempt to clean out well bore to total depth.
- 2) Circulate gel to 20' above cleaned out area, place the first cement plug from 2027' to 1712' to close the hydrocarbon producing zone.
- 3) Attempt to pull the 4½" casing; freepoint. sever and pull the 4½" casing above the original cemented depth; 915±.
- 4) Circulate gel from 1712' to 965' depth, place the second cement plug from 965' to 763' to include casing cut and old casing seat.
- 5) ~~Perforate FW show from 347' to 353'~~
- 6) Circulate gel from 763' to 400'; set third cement plug from depth 400' to 300'.
- 7) Circulate gel from 300' to 100' then cement to surface.
- 8) Remove tubing and erect monument with API number affixed.

NO PERFS.
SET PLUG IN CASING
B.H.

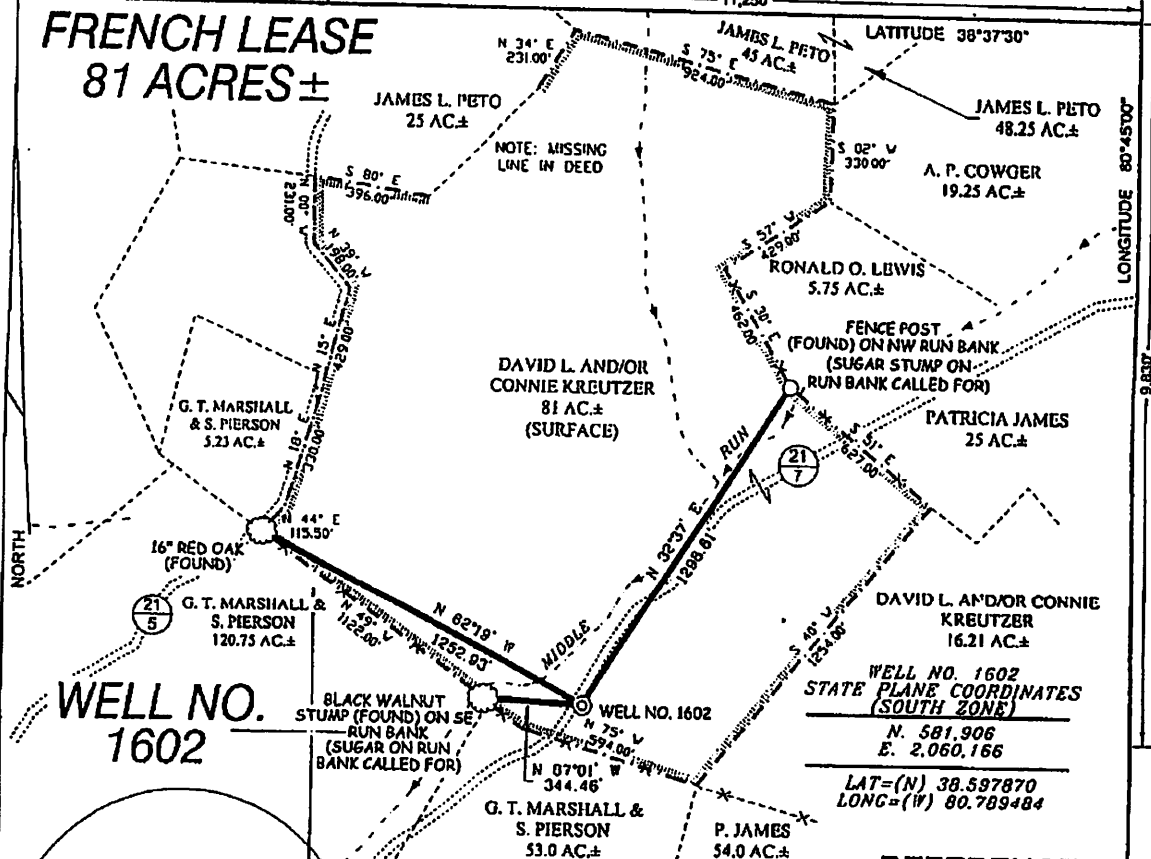
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9/11/11

FORM WV 6

FRENCH LEASE

81 ACRES±



NOTES ON SURVEY

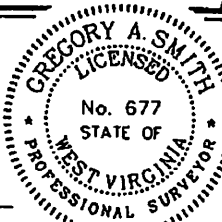
1. TIES TO WELLS AND CORNERS ARE BASED ON GRID NORTH FOR THE WV STATE PLANE COORDINATE SYSTEM SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 2/20/04.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM A DEED BOOK 361 AT PAGE 523 AND ADJOINING DEED DESCRIPTIONS.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF BRAXTON COUNTY IN FEBRUARY, 2004.
5. WELL LAT./LONG. ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).

REFERENCES

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DIVISION OF ENVIRONMENTAL PROTECTION.

P.S.
677

Gregory A. Smith



(*) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE MARCH 1, 20 04

OPERATORS WELL NO. FRENCH NO. 1602

API WELL NO. 47 - 007 - 02372
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/200 FILE NO. 5452P1602 (161-14 & 15)
PROVEN SOURCE OF ELEVATION DGPS (SUBMETER MAPPING GRADE) SCALE 1" = 500'

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS



WELL TYPE: OIL ☐ GAS ☒ LIQUID INJECTION ☐ WASTE DISPOSAL ☐ IF "GAS" PRODUCTION ☒ STORAGE ☐ DEEP ☐ SHALLOW ☒

LOCATION: ELEVATION 1,125' WATERSHED MIDDLE RUN DISTRICT OTTER COUNTY BRAXTON QUADRANGLE HEROLD 7.5'

SURFACE OWNER DAVID L. AND/OR CONNIE KREUTZER ACREAGE 81±

ROYALTY OWNER ILEANA R. CROWLEY LEASE ACREAGE 81±

PROPOSED WORK: LEASE NO. 1112

DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒ PLUG OFF OLD FORMATION ☐ PERFORATE NEW FORMATION ☐ PLUG AND ABANDON ☐ CLEAN OUT AND REPLUG ☐ OTHER ☐

PHYSICAL CHANGE IN WELL (SPECIFY) TARGET FORMATION BIG INJUN ESTIMATED DEPTH 2,400'

WELL OPERATOR LINN OPERATING, LLC

ADDRESS 1700 NORTH HIGHLAND ROAD, SUITE 100
PITTSBURGH, PA 15241

DESIGNATED AGENT JUDSON E. SHREVES

ADDRESS P.O. BOX 368
GLENNVILLE, WV 26351

COUNTY NAME PERMIT

RECEIVED
8/4/04
Oil and Gas

2372
Permit

WK-35

API # 47-007-02372

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

M 17

Well Operator's Report of Well Work

Farm name: David L. Kreutzer etux. Operator Well No.: French 1602

LOCATION: Elevation: 1125.00' Quadrangle: Herold 7.5'

District: Otter County: Braxton
Latitude: 9830 Feet South of 38 Deg. 37 Min. 30 Sec.
Longitude: 11250 Feet West of 80 Deg. 45 Min. 00 Sec.

Company: Linn Operating, LLC
P. O. BOX 368
GLENVILLE, WV 26351-0368

Agent: Judson E. Shreves

INSPECTOR: Craig Duckworth
Permit Issued: 04/27/04
Well work commenced: 05/17/04
Well Work completed: 05/20/04

Verbal Plugging

Permission granted on:

Rotary X Cable Rig

Total Depth (feet) 2238'

Fresh water depths (ft) 350'

Salt water depths (ft) none

Is coal being mined in area (Y/N)? n

Coal Depths (ft): none

Essential Tooling Size	Used and Drilling	Depth Feet	Cement Fill Up Cu. Ft.
8 5/8	813'	813'	C.T.S.
4 1/2		2130'	165 sks.

OPEN FLOW DATA

Producing formation WE, BL, BM Pay zone depth (ft) see treat.
Gas: Initial open flow na MCF/d Oil: Initial open flow na Bbl/d
Final open flow 33 MCF/d Final open flow na Bbl/d
Time of open flow between initial and final tests 4 Hours
Static Rock pressure 460 psig (surface pressure) after 48 Hours

Second producing formation _____ pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock pressure _____ psig (surface pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATION, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: Linn Operating, LLC

By: Daniel R. Chapman, Geologist

Date: November 11, 2004

664
2372

1st Stage: Weir(2070-2062) 500 gal 15% HCl, 250 sks 20/40, 157 mcf
N2, 111 bbl H2O

2nd Stage: Big Lime(1867-1863) 50 bbl FE acid, 37 mcf N2

3rd Stage: Blue Monday(1766-1760) 500 gal 15% HCl, 200 sks 20/40,
231 mcf N2, 109 bbl H2O

Sand, shale	0	1360 1" stream @ 350'
Sand, shale, RR	1360	1480
Sand, shale	1480	1695
Little Lime	1695	1711
Shale	1711	1762
Blue Monday	1762	1768
Big Lime	1768	1876
Big Injun	1876	1977
Shale	1977	2238 T.D.

RECEIVED
Office of the Engineer

JUN 20 1966

W. H. H. H. H. H.
Engineer in Charge

7023729

WW-4A
Revised 6-07

1) Date: November 7, 2013

2) Operator's Well Number
French #1602

3) API Well No.: 47 - 007 - 02372

**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL**

CK 24751
10000

4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>KREUTZER DAVID L &/OR CONNIE</u> ✓	Name <u>n/a</u>
Address <u>ROUTE 1 BOX 34</u>	Address _____
<u>FRAMETOWN WV 26623</u>	_____
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>n/a</u>
_____	Address _____
(c) Name _____	Name _____
Address _____	Address _____
_____	_____
6) Inspector <u>Bryan Harris</u> ✓	(c) Coal Lessee with Declaration
Address <u>P.O Box 157</u>	Name <u>n/a</u>
<u>Volga WV 26238</u>	Address _____
Telephone <u>304-553-6087 cell, or 304-472-1732</u>	_____

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.



Well Operator HAYDEN HARPER ENERGY KA, LLC
By: Brett McDonough
Its: Vice President
Address 1001 Moorehead Square Drive - Suite 350
Charlotte, NC 28203
Telephone 704-343-2447

Subscribed and sworn before me this 10th day of December 2013
Deedee Taylor Notary Public
My Commission Expires May 17th, 2016

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyoffier@wv.gov.

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Office of Oil and Gas

JAN 02 2014

Department of
Environmental Protection

WW-9
(5/13)Page _____ of _____
API Number 47 - 007 - 02372
Operator's Well No. French #1602STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name HAYDEN HARPER ENERGY KA, LLC OP Code 494495359Watershed (HUC 10) 0505000704 Middle Run of Birch River Quadrangle Herold WV 7½'Elevation 1132.35 County Braxton District BirchDo you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes _____ No XXWill a pit be used for drill cuttings? Yes XX No _____If so, please describe anticipated pit waste: fluids used and associated with well plugging activitiesWill a synthetic liner be used in the pit? Yes XX No _____ If so, what ml.? 20 ml

Proposed Disposal Method For Treated Pit Wastes:

- ☒ Land Application
☐ Underground Injection (UIC Permit Number _____)
☐ Reuse (at API Number _____)
☐ Off Site Disposal (Supply form WW-9 for disposal location)
☐ Other (Explain _____)

Will closed loop system be used? ~~yes~~ noDrilling medium anticipated for this well? Air, freshwater, oil based, etc. n/a

-If oil based, what type? Synthetic, petroleum, etc. _____

Additives to be used in drilling medium? _____

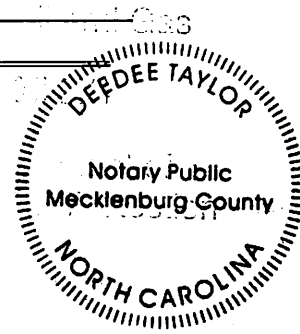
Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. _____

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) _____

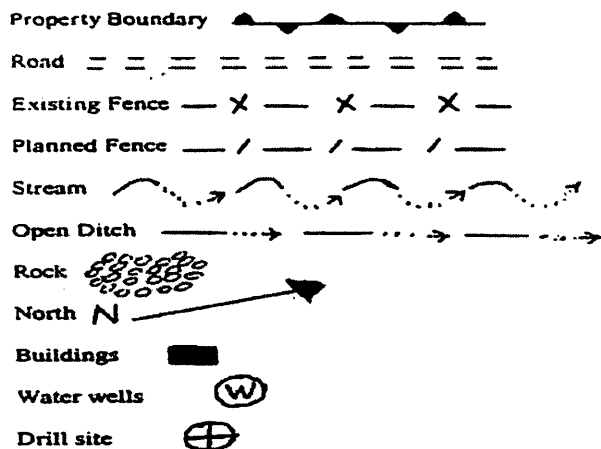
-Landfill or offsite name/permit number? _____

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

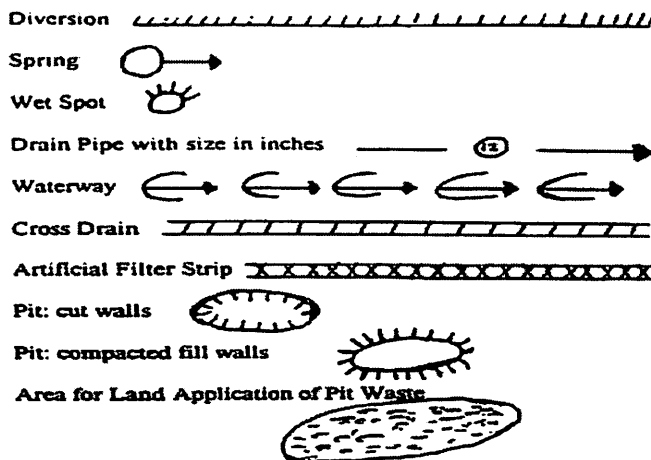
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature [Signature]Company Official (Typed Name) Brett McDonoughCompany Official Title Vice PresidentSubscribed and sworn before me this 10th day of December, 2013[Signature] Notary PublicMy commission expires May 17th, 2016

Form WW-9

Operator's Well No. Frend 1602

LEGEND

Proposed Revegetation Treatment: Acres Disturbed 1 Acre Prevegetation pH 6.4Lime 2 Tons/acre or to correct to pH 6.5Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)Mulch pulp 6 in 15-75 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40		
LAOING Clover	5		

Attach:

Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Dan O'Hara

Comments: _____

Title: Oil & Gas InspectorDate: 1-3-14

Field Reviewed?

☒ Yes☐ No

TOPO SECTION OF:
United States Department of the Interior
Geological Survey - Herold, WV - 7½' Quadrangle

PROPOSED CULVERT INVENTORY (For Bid Purposes Only)

15" (Minimum) Culverts	None
------------------------	------

Additional Culverts and/or other drainage structures and sediment control devices may be required by the WVDEP Oil & Gas Inspector. Operator is responsible for coordination with contractor and True Line regarding any changes or additions the State may require.

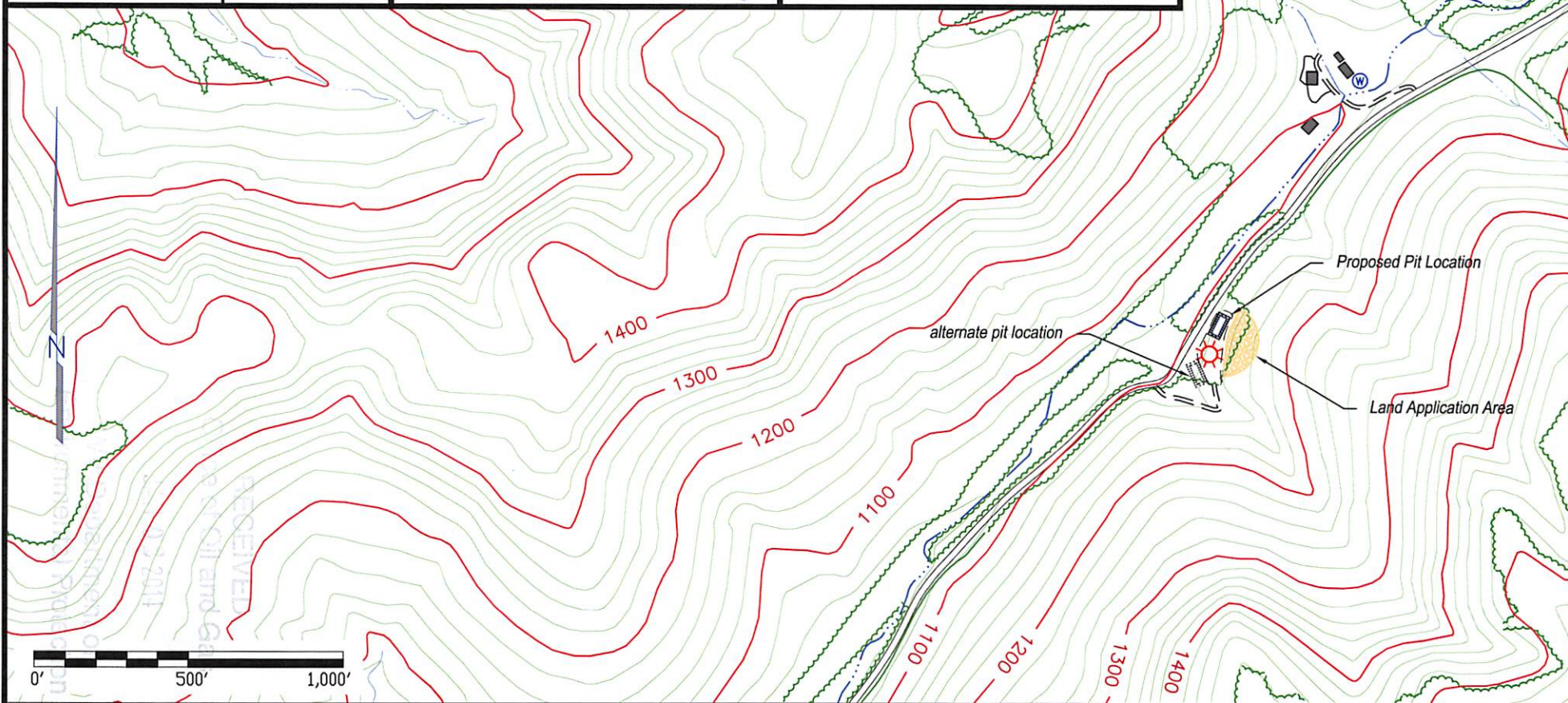
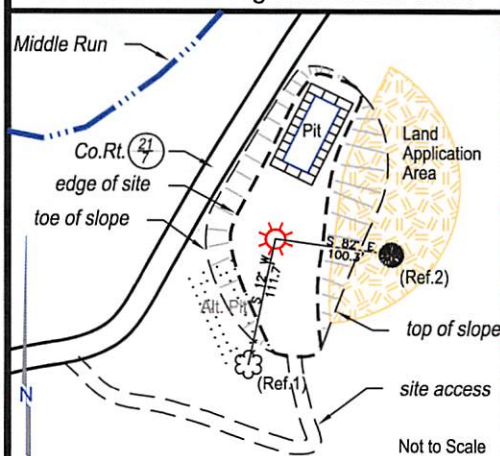
PROJECTED EARTHEN DISTURBANCE

Well Location Site	0.61 Acres
Access Road	0.09 Acres
Approximate Total Disturbance	0.70 Acres

LEGEND

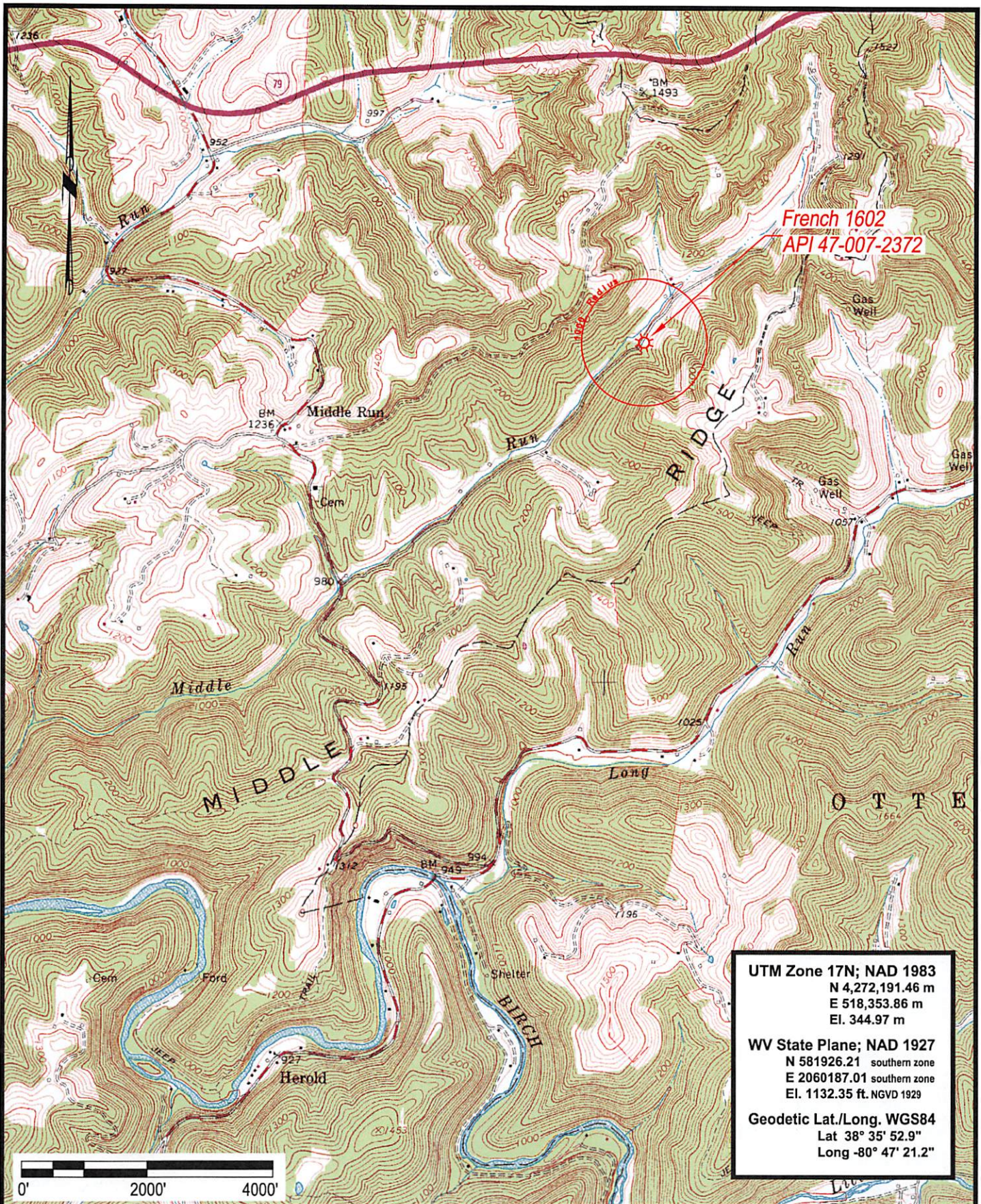
Proposed Road	---
Existing Road	==
Existing Culvert	—
Proposed Culvert (15" Min. unless noted)	—
Proposed Stream Crossing	—
Cross Drain	—
Diversion Ditch	—
Silt Fence	—
Brush Barrier	—
Tree Line	—
Road Ditch	—
Gas Line	— GAS —
Fence Line	—
Water Well	⊙
House/Structure	■
Spring	⊙
Wet Spot	⊙

Detail Sketch existing well French 1602



702372P

702372P



UTM Zone 17N; NAD 1983
 N 4,272,191.46 m
 E 518,353.86 m
 El. 344.97 m

WV State Plane; NAD 1927
 N 581926.21 southern zone
 E 2060187.01 southern zone
 El. 1132.35 ft. NGVD 1929

Geodetic Lat./Long. WGS84
 Lat 38° 35' 52.9"
 Long -80° 47' 21.2"

**HAYDEN
HARPER**

French 1602

API 47-007-02372

November 7, 2013

Located near Herold in Birch District of Braxton County, West Virginia

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-007-02372 WELL NO.: French 1602

FARM NAME: David L Kreutzer etux.

RESPONSIBLE PARTY NAME: Harper, Hayden Energy KA, LLC

COUNTY: Braxton DISTRICT: Birch

QUADRANGLE: Herold WV 7½' Series

SURFACE OWNER: David L. and/or Connie Kreutzer

ROYALTY OWNER: Ileana R. Crowley

UTM GPS NORTHING: 4272191.4620

UTM GPS EASTING: 518353.8629 GPS ELEVATION: 344.97 1132.35 RT

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS XX: Post Processed Differential XX


Real-Time Differential _____

Mapping Grade GPS _____: Post Processed Differential _____

Real-Time Differential _____

4. **Letter size copy of the topography map showing the well location.**

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.


Signature

PS 1065

Title

RECEIVED
Office of Oil and Gas
JAN 03 2014
11/18/13
Date
West Virginia Department of Environmental Protection

702372P

Hayden Harper Energy KA, LLC
1001 Moorehead Square Dr. - Suite 350
Charlotte, NC 28203

Mr. James Martin, Chief
Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304-2345

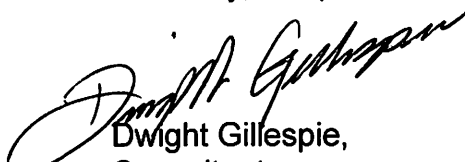
RE: Plugging Permit for API #47-007-02372 Well No. French 1602

Dear Mr. Martin:

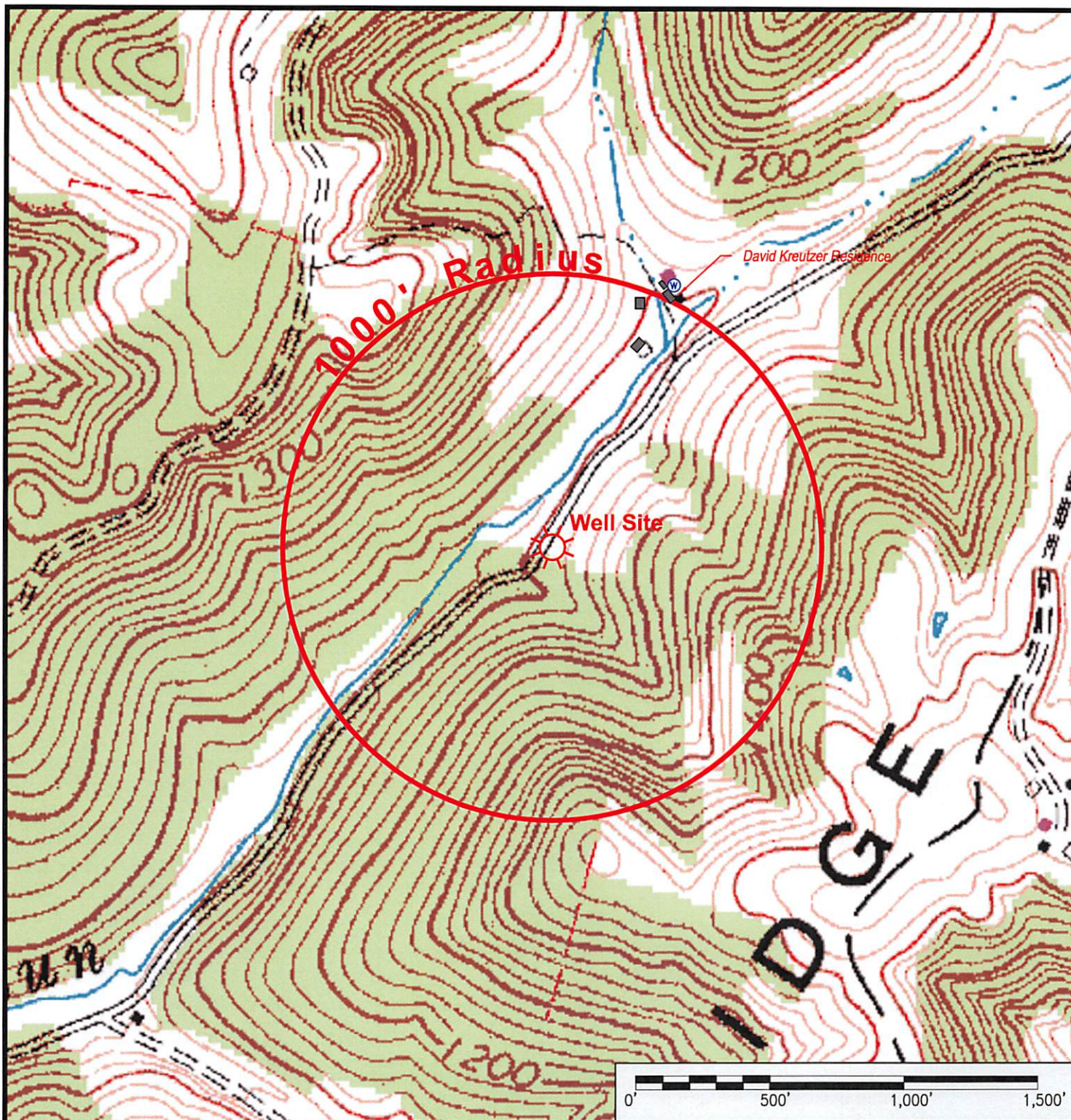
Included are forms WW4-A, WW4-B and WW-9 for Hayden Harper Energy KA, LLC's Well No. 47-007-02372. A pit will be required for this work therefore a \$100.00 filing fee is included. Copies of the Certified Mail Receipts are also included.

Your prompt consideration of this application would be most appreciated. If you have any questions or need additional information, please contact me at (304) 448-2116.

Sincerely,


Dwight Gillespie,
Consultant

RECEIVED
OFFICE OF OIL AND GAS
JUN 27 2011
BUREAU OF REVENUE
HARRISBURG, PA

**Notes:****Herold WV, 7-1/2' Quadrangle**

One water well is the only source of groundwater currently being used for human consumption, domestic animals or other general uses identified within 1000' of the well to be plugged. A water sample has been collected from the well of David Kreutzer, surface owner and 1000' groundwater user.

Legend:

Water Well
Spring
Wet Spot
House/Structure

